

DEPARTMENT OF PESTICIDE REGULATION WORKER HEALTH AND SAFETY



Worker Health and Safety Branch is generally responsible for characterizing human exposure, assessing safety of workers and consumers in any area where pesticides are used, and for developing measures to reduce exposure. This is accomplished through several programs: Exposure Assessment and Mitigation, Exposure Monitoring, Industrial Hygiene, Pesticide Illness Surveillance, and Worker Protection.

Exposure Assessment and Mitigation Program

The Exposure Assessment and Mitigation Program (EAMP) conducts human exposure assessments that are an integrated element of the Department's risk assessment program. Risk assessment is a process designed to answer questions about how toxic a pesticide is (hazard identification), what exposure results from its various uses (exposure assessment), what is the probability that the use will cause harm, and how to characterize that risk. DPR is required to conduct risk assessments of pesticides under several statutory mandates, including the Birth Defect Prevention Act.

All of EAMP's completed exposure assessments can be downloaded from DPR's Web at <http://www.cdpr.ca.gov/docs/whs/whsrep.htm>. This group receives input from other WH&S Branch elements, including the Exposure Monitoring, Industrial Hygiene, and Pesticide Illness Surveillance programs. Exposure Assessment scientists review data generated by the Exposure Monitoring Program, pesticide registrants, and published in scientific literature, on dermal absorption, metabolism, pharmacokinetics, sensitization, and worker exposure. In addition, staff scientists review proposed protocols submitted by pesticide registrants for exposure monitoring studies these companies wish to conduct, and later may audit studies conducted in California.

Industrial Hygiene Program

The Industrial Hygiene Program evaluates pesticide products and labeling for effective control of exposure hazards. This group recommends control methods, when needed, to ensure adequate protection to the pesticide product user and others possibly exposed. Projects include review of federal product labels and hazard communication literature (MSDS); evaluation of application work sites; and onsite exposure monitoring. Industrial Hygiene also evaluates workplaces following exposure incidents. This group works with other DPR groups, and with professional engineering and governmental occupational safety and health organizations, to develop mitigation measures applicable to pesticide application. Recommended control methods are based on established industrial hygiene hierarchy of control. This hierarchy aids in selecting safety measures: Select engineering controls first (closed systems, enclosed cabs); if that is not feasible, select administrative controls (restricted entry intervals, buffer zones); as a last resort, select personal protective equipment. Hygienists consult with safety experts, registrants, other government agencies, and the public on matters of engineering controls, administrative controls, heat stress, personal protective equipment, and airborne monitoring methods. Ongoing projects involve fumigant exposure reduction; improving protections afforded by enclosed cabs; closed mix/load systems; and personal protective equipment

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Pesticide Illness Surveillance Program

The Pesticide Illness Surveillance Program (PISP) maintains a database of pesticide-related illnesses and injuries. Case reports are received from physicians and via workers' compensation records. The local County Agricultural Commissioner investigates the circumstances of exposure. Medical records and investigative findings are then evaluated by DPR technical experts and entered into an illness registry. This data helps validate the effectiveness of exposure control measures and identifies areas where improvements are needed. Analysis of trends in illness and injury produced by a particular pesticide or activity also provides direction for the Exposure Monitoring Program, Industrial Hygiene Program, and Exposure Assessment and Mitigation Program.

Exposure Monitoring Program

Exposure Monitoring Program scientists design and conduct field studies to characterize workplace exposure to pesticides. Since 1973, scientists have conducted nearly 300 studies in a wide variety of settings, predominantly agricultural. Studies include monitoring unsafe work conditions; measuring the impact of proposed or mandated exposure mitigation methods; evaluating the effectiveness of new or modified pesticide handling equipment to reduce exposure; measuring worker exposure to off-patent chemicals; and characterizing pesticide residue dissipation. DPR scientists are pioneers in the development of methods to monitor pesticide exposure, with particular attention to new exposure situations. The program evaluates pesticide dissipation to discern trends that may be influenced by environmental conditions. Scientists use a variety of samples to evaluate pesticide exposures including surveys, dislodgeable foliar residues, soil and air measurements, residues on skin and clothing, and blood and urine analyses. Study results are incorporated into reports and presentations; nearly 300 study reports can be downloaded from DPR's Web <http://www.cdpr.ca.gov/docs/whs/whsrep.htm>. The Exposure Assessment and Mitigation Program uses the data to more accurately evaluate exposure, and this results in more finely tuned protection for workers and consumers. The studies also help determine if the protective measures on the product label are sufficient, or how they can be improved. Exposure Monitoring Program scientists are available to provide key support in illness investigations. The scientists also investigate unsafe work conditions detected by the Pesticide Illness Surveillance Program.

Worker Protection Program

The Worker Protection Program evaluates the implementation of the state worker safety regulations and provides input on changes to the federal Worker Protection Standard. Research includes looking at trends in the pesticide illness surveillance database, enforcement database, compliance assessment studies, and data from field surveys and exposure monitoring studies. This program is also responsible for developing outreach materials such as the Pesticide Safety Information Series leaflets.